

Appl. No. 09/220,223
Amtd. Dated February 27, 2006
Reply to Office Action of December 6, 2005

Amendments to the Claims:

This listing will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A nonwoven fabric containing thermoplastic microfibers, said nonwoven fabric comprising:

thermoplastic synthetic fibers being about 5 to about 30 mm long and as fine as about 0.1 to 0.8 d, in about 90 to 10% by weight, and pulp fibers being about 2 to 7 mm long, in about 10 to 90% by weight, being mixed with each other and entangled by subjecting a mixture of said thermoplastic synthetic fibers and said pulp fibers to high velocity water jet streams so as to have a basis weight of about 10 to 80 g/m² as a whole,

said fabric being in the form of a sheet having a plurality of protuberances that project from a surface of the sheet, said protuberances being formed after the thermoplastic synthetic fibers and pulp fibers have been subjected to high velocity water jets which stabilize a texture of the mixture of thermoplastic synthetic fibers and pulp fibers so that as the protuberances are subsequently formed the thermoplastic synthetic fibers and pulp fibers are reoriented, and said thermoplastic synthetic fibers being non-fused throughout said fabric.

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Claim 2 (Previously presented): A nonwoven fabric according to claim 1, wherein said thermoplastic synthetic fibers comprise melt blown fibers.

Claim 3 (Previously presented): A nonwoven fabric according to claim 1, wherein said nonwoven fabric comprises a paper towel.

Claims 4-5 (Canceled)

Claim 6 (Previously presented): A nonwoven fabric according to claim 1, wherein the plurality of protuberances have heights of about 0.2 to 5 mm and pitches of about 1 to 10 mm in lateral and transverse directions of the sheet.

Claim 7 (Previously presented): A nonwoven fabric according to claim 1, wherein the plurality of protuberances have conical shapes.

Claim 8 (Previously presented): A nonwoven fabric according to claim 1, wherein the plurality of protuberances have pyramidal shapes.

Claim 9 (Currently amended): A nonwoven fabric containing thermoplastic microfibers, said nonwoven fabric comprising:

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thermoplastic synthetic fibers being about 5 to about 30 mm long and having a fineness of about 01 to 0.8 d, in about 90 to 10% by weight, and pulp fibers being about 2 to 7 mm long, in about 10 to 90% by weight, being mixed with each other and entangled by subjecting a mixture of said thermoplastic synthetic fibers and said pulp fibers to high velocity water jet streams so as to have a basis weight of about 10 to 80 g/m² as a whole,

said fabric being in the form of a sheet having a plurality of protuberances that project from a surface of the sheet, said protuberances being formed after the thermoplastic synthetic fibers and pulp fibers have been subjected to high velocity water jets which stabilize a texture of the mixture of thermoplastic synthetic fibers and pulp fibers so that as the protuberances are subsequently formed the thermoplastic synthetic fibers and pulp fibers are reoriented, said protuberances having curved peaks, and said thermoplastic synthetic fibers being non-fused throughout said fabric.

Claim 10 (Previously presented): A nonwoven fabric according to claim 1, wherein each of the protuberances has a base continuous with the surface of the sheet, a peak and a diameter that gradually decreases from the base toward the peak.

Claim 11 (Previously presented): A nonwoven fabric according to claim 1, wherein a water absorbability of the plurality of protuberances is substantially equal to a water absorbability of areas between the plurality of protuberances.

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Claim 12 (Previously presented): A nonwoven fabric according to claim 1, wherein the nonwoven fabric has a cross section in the form of undulations which continue in at least one direction of the nonwoven fabric.

Claim 13 (Previously presented): A nonwoven fabric according to claim 1, wherein a texture of said mixture of said thermoplastic synthetic fibers and said pulp fibers is stabilized by subjecting the mixture to additional high velocity water jet streams before being subjected to entanglement.

Claim 14 (Previously presented) A nonwoven fabric according to claim 9, wherein a texture of said mixture of said thermoplastic synthetic fibers and said pulp fibers is stabilized by subjecting the mixture to additional high velocity water jet streams before being subjected to entanglement.

Claim 15 (Previously presented): A nonwoven fabric according to claim 1, wherein the protuberances are formed by subjecting the fabric to a pair of opposed embossing rolls provided on opposite sides of the sheet, so that the thermoplastic fibers are non-fused throughout said fabric, including throughout the protuberances.

Claim 16 (Previously presented): A nonwoven fabric according to claim 9, wherein the protuberances are formed by subjecting the fabric to a pair of opposed embossing rolls provided on

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opposite sides of the sheet, so that the thermoplastic fibers are non-fused throughout said fabric, including throughout the protuberances.